In the Claims:

1. (previously presented) A self-adhesive, flexible sealing tape comprising at least one flexible, self-adhesive core/carrier layer provided with an envelope/ two-sided coating comprising a second adhesive system, wherein the envelope/two-sided coating comprises an expanded pressure-sensitive adhesive tape, said envelope/two-sided coating completely surrounding/enclosing said at least one core/carrier layer, and that the material for the at least one core/ carrier layer is selected from the group comprising thermoplastic rubbers on the basis of styrene-isoprene-styrene block copolymers, styrene-butadiene-styrene block copolymers, copolymers of vinyl acetate, polyisobutylenes and acrylates which have been cross-linked by a process selected from the group consisting of thermally and UV irradiation.

2. (previously presented) The sealing tape according to claim 1, wherein the material for the core/the carrier layer has a glass transition temperature (Tg) of below 0 °C.

3. (previously presented) The sealing tape according to claim 1, wherein the pressure-sensitive adhesive tape is based on a pure dispersion acrylate.

4. (previously presented) The sealing tape according to claim 3, wherein the pure dispersion acrylate is based on plasticizing monomers selected from the group consisting of 2-ethylhexyl acrylate, 1-butyl acrylate and n-butyl acrylate.

5. (previously presented) The sealing tape according to claim 1, wherein the pressure-sensitive adhesive tape comprises an adhesive based on a material selected from the group consisting of vinyl isobutyl ether and isobutene.

6. (previously presented) The sealing tape according to claim 1, wherein the thickness of

the core/the carrier layer is between 0.1 mm and 8 mm.

7. (previously presented) The sealing tape according to claim 1, wherein the width of the core/the carrier layer is between 1 mm and 10 mm.

8. (previously presented) The sealing tape according to claim 1, wherein the thickness of the envelope/two-sided coating is between 0.2 and 1.5 mm.

9. (previously presented) The sealing tape according to claim 1, wherein the envelope/ two-sided coating has a foam-like structure.

10. (previously presented) The sealing tape according to claim 1, wherein the sealing tape is equipped with reinforcing elements which stabilise the sealing tape in the longitudinal direction.

11. (previously presented) The sealing tape according to claim 1, wherein the reinforcing element is selected from the group consisting of threads, nonwovens or interlaid scrims, wovens, knitted fabrics and crocheted fabrics.

12. (withdrawn) A process for the manufacture of a self-adhesive, flexible sealing tape comprising at least one flexible, self-adhesive core/carrier layer provided with an envelope/ two-sided coating including a second adhesive system, comprising the steps of:

manufacturing the core/carrier layer and the envelope/ two-sided coating in independent processes as web-like materials;

subsequently advancing two pre-fabricated pressure-sensitive adhesive tapes, one per side, towards a web consisting of the elastic core material/carrier layer material; and

applying pressure to combined said pre-fabricated tapes with said web.

13. (withdrawn) The process according to claim 12, for the manufacture of the expanded

pressure-sensitive adhesive tape further comprising the step of producing an aqueous dispersion of the pressure-sensitive adhesive and containing a filler comprising small, thermoplastic hollow plastic spheres filled with hydrocarbon gas, said hollow spheres expanding upon exposure to a temperature in the range between 70 °C and 140 °C; processing the dispersion to a pressure-sensitive adhesive tape; and expanding said adhesive tape.

14. (previously presented) Use of a sealing tape according claim 1 for adhesively bonding vapour barrier films or vapour retarder films, by adhesively bonding said films to walls.

15. (previously presented) The sealing tape according to claim 6, wherein the thickness of the core/the carrier layer is between 1 mm and 5 mm.

16. (previously presented) The sealing tape according to claim 8, wherein the thickness of the envelope/two-sided coating is between 0.5 mm and 1 mm.